



Parcel E-2 Remedial Action
Update

Hot Spot Delineation and Excavation

Hunters Point Naval Shipyard BCT Meeting

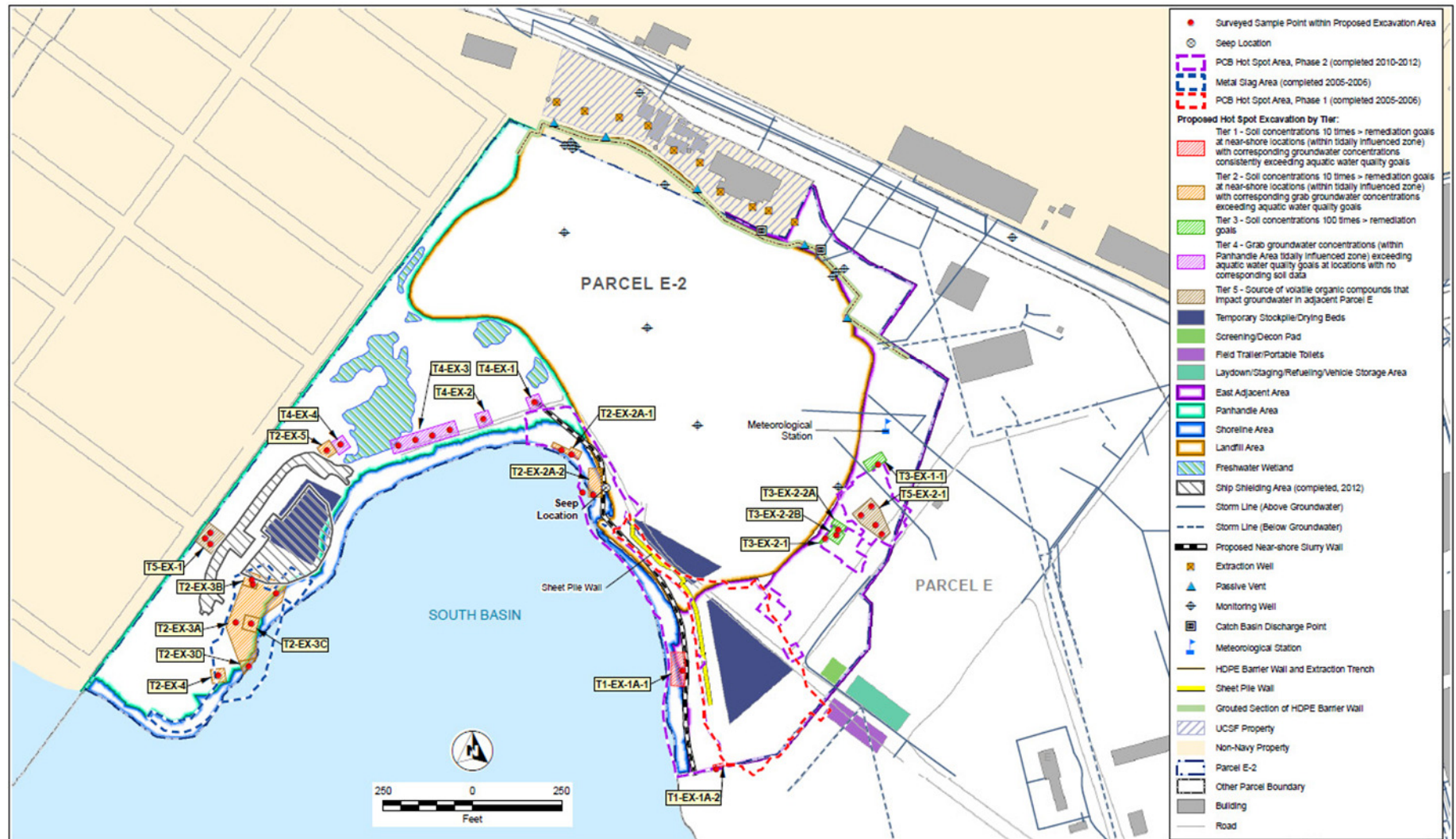
6/5/2014

Presentation Outline



- **Hot Spot Areas – Site Layout**
- **Biological Support**
- **Pre-Excavation Characterization Methodology**
- **Characterization Summary**
- **Characterization Results**
- **Revised Excavation Boundaries**
- **Schedule Update**

Hot Spot Areas – Site Layout



Biological Support



- A field biologist is on-site performing ongoing observation of all mechanized and/or intrusive work.
- During routine monitoring on April 8, 2014, a the field biologist noted the presence of a Killdeer (*Charadrius vociferous*) nest adjacent to the Panhandle intertidal zone.
- Killdeer are not endangered or threatened but are protected under the U.S. Migratory Bird Treaty Act.
- A 100 by 100 foot buffer zone was established around the nest.
- Hatchlings were observed in the nest on April 29, 2014 and had fledged by May 1, 2014.
- The buffer zone was removed on May 1, 2014.
- Biological monitoring will continue during all field operations.

Killdeer Nest, Buffer Zone and Hatchlings



Pre-Excavation Characterization Methodology



- Pre-excavation characterization sidewall samples were collected at a minimum frequency of one sample per 50 linear feet of proposed excavation sidewall length (or fraction thereof), and one sample for every 5 vertical feet of proposed excavation sidewall depth.
- Pre-Excavation Characterization floor samples were collected at either 1 sample per 400 ft² or 1 sample per 900 ft².
 - 1 per 400 square feet (20' x 20' grid) in all Tier 1 excavations, Tier 2 excavations adjacent to the landfill (T2-EX-2A-1 and T2-EX-2A-2), and Tier 4 excavations.
 - 1 per 900 square feet (30' x 30' grid) in all Tier 3 excavations, Tier 5 excavations, and Tier 2 excavations in the Panhandle Area.
- Pre-Excavation Characterization samples collected via hand-augering or limited-access, track-mounted direct push drill rig.

Step-Out Sample Collection Methodology



- **Bottom (deepest) samples exceeding Hot Spot Goal(s) were bound vertically via additional boring(s) drilled in the same location, with deeper sample(s) collected at multiple depths below exceedance.**
- **Sidewall samples exceeding Hot Spot Goal(s) from borings not on a limiting feature (property/parcel boundary; E-2 landfill) were bound horizontally via borings installed at the same depth 10-15 feet of the exceedance.**
- **Available exceedence data were responded to while drill crew was on site (March 31-May 5, 2014). Exceedance data received following drill crew demobilization will be addressed during remobilization of drill crew beginning June 27, 2014.**

Pre-Excavation Characterization Summary



- **Pre-excavation characterization sampling was conducted from March 18, 2014 to May 5, 2014.**
- **260 Pre-characterization borings were advanced:**
 - 213 original borings advanced
 - 32 stepout borings advanced (for horizontal bounding)
 - 15 resample borings advanced (for additional vertical bounding)
 - 25-30 additional borings to be advanced during June 2014 follow-up drilling event.
- **Pre-excavation characterization data show absence of soil contamination above hot spot goals in the following areas:**
 - T4-EX-1
 - T4-EX-4

Pre-Excavation Characterization Summary (cont.)



- **Pre-excavation characterization data show only historical soil contamination (previous to this project) above Hot Spot Goals in the following areas:**

- T1-EX-1A-2
- T2-EX-4
- T2-EX-5
- T3-EX-1-1
- T3-EX-2-1
- T3-EX-2-2B
- T5-EX-2-1

- **Based on initial data, horizontal step-outs and/or vertical resamples were necessary at:**

- T1-EX-1A-1
- T2-EX-2A-1
- T2-EX-2A-2
- T2-EX-3B
- T2-EX-3C
- T2-EX-3D
- T2-EX-2-2A
- T4-EX-2
- T4-EX-3
- T5-EX-1

Pre-Excavation Characterization Summary (cont.)



- **Following first round of drilling and step-out sampling, pre-excavation characterization data show horizontal and vertical delineation in the following areas:**

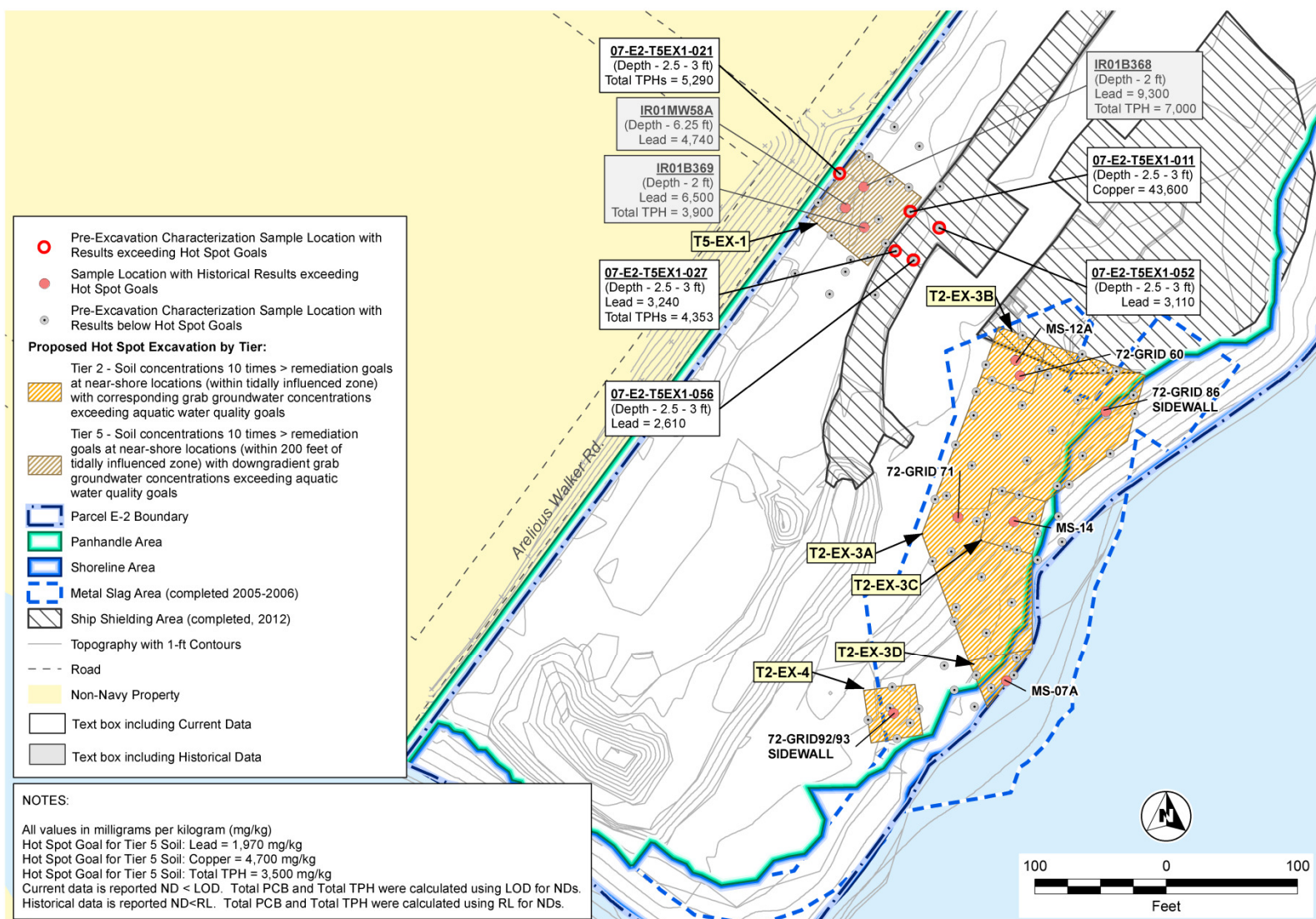
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|--------------|--------------|
| • T1-EX-1A-1 | • T2-EX-5 |
| • T1-EX-1A-2 | • T3-EX-1-1 |
| • T2-EX-2A-2 | • T3-EX-2-1 |
| • T2-EX-3A | • T3-EX-2-2B |
| • T2-EX-3C | • T4-EX-2 |
| • T2-EX-4 | • T5-EX-2-1 |

Pre-Excavation Characterization Summary and Results (cont.)

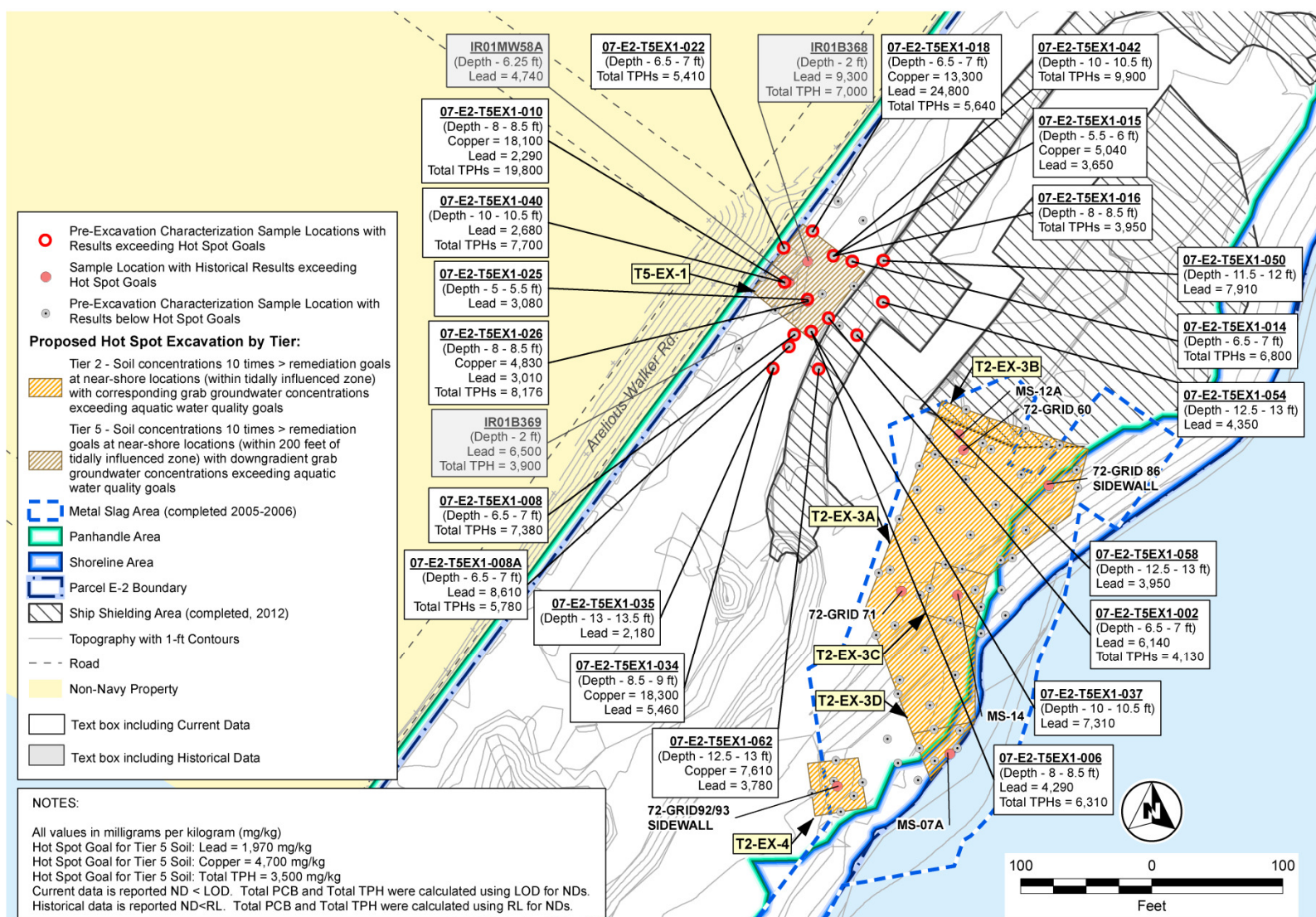


- **Additional step-outs to achieve horizontal bounding are needed at:**
 - T2-EX-3B
 - T2-EX-3D
 - T4-EX-3
 - T5-EX-1
- **Additional samples to achieve vertical bounding are needed at:**
 - T2-EX-2A-1
 - T3-EX-2-2A
- **~32,000 cubic yards (including 1:1 benching of excavations >5 feet deep) currently estimated for excavation.**
- **Pre-characterization excavation data at T5-EX-1 show that TPH, lead, and copper contamination likely extend offsite to the northwest.**

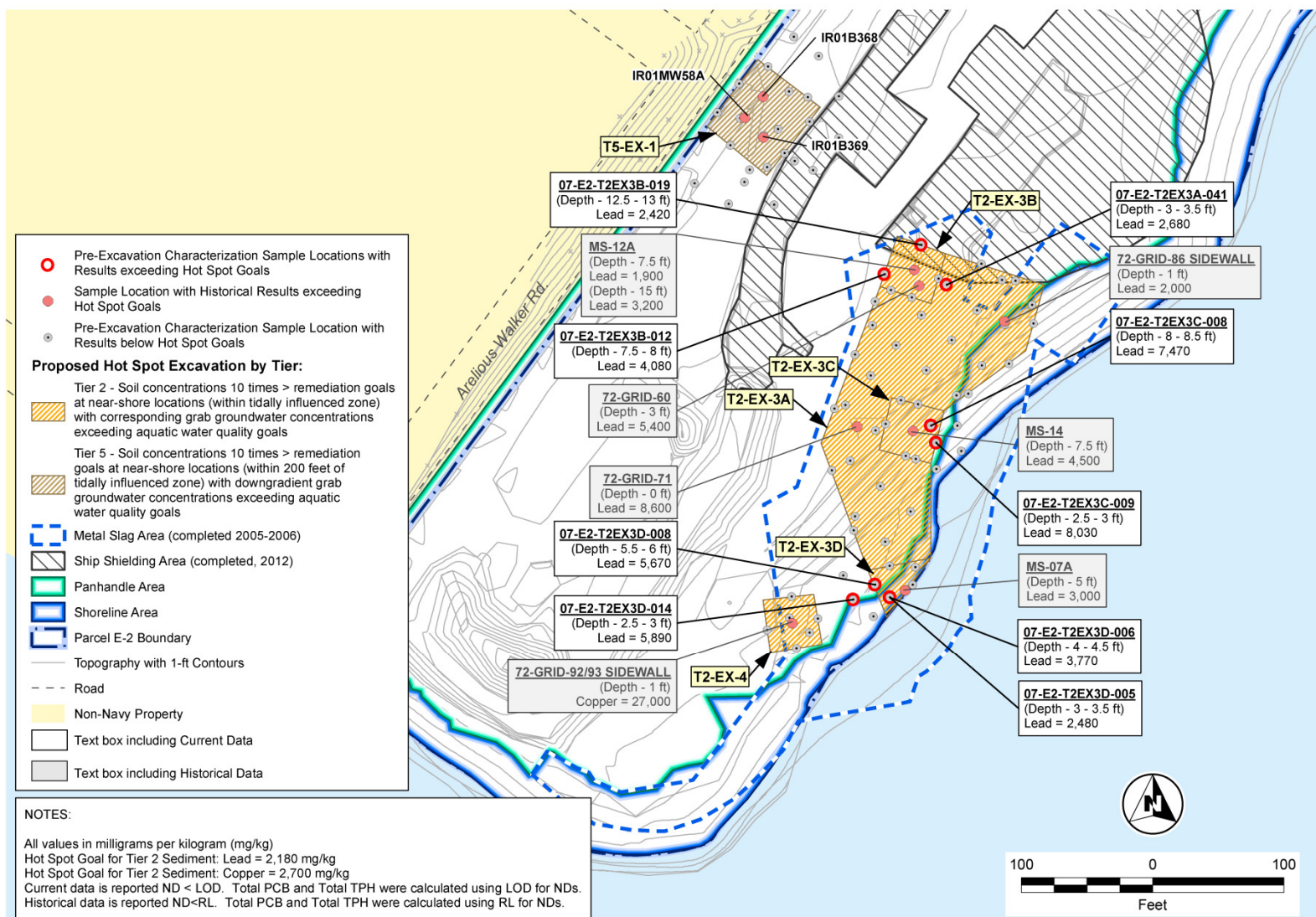
Results Exceeding Hot Spot Goals: T5-EX-1 - Ground Surface to 5 Feet



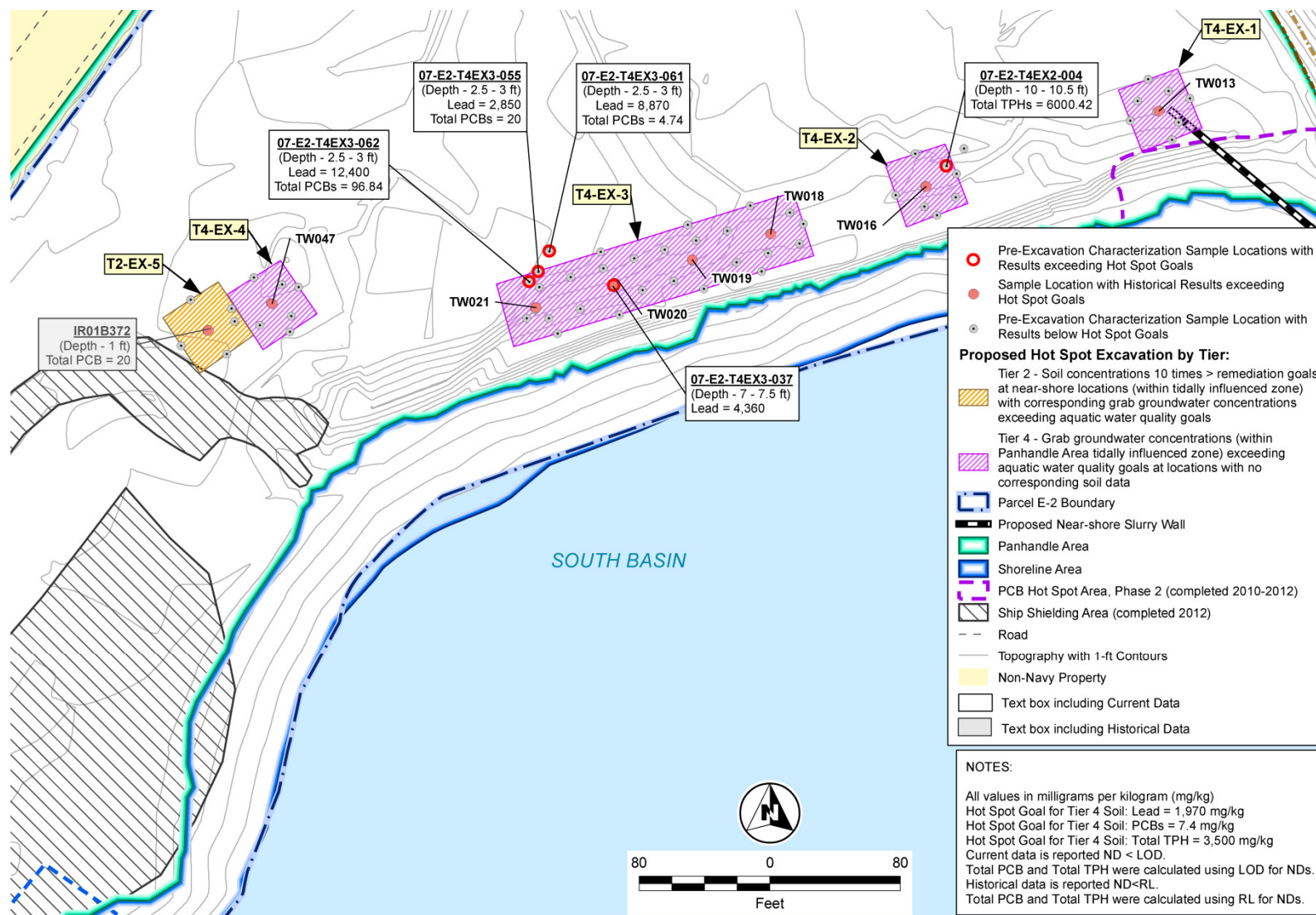
Results Exceeding Hot Spot Goals: T5-EX-1 - 5 Feet to 10 Feet



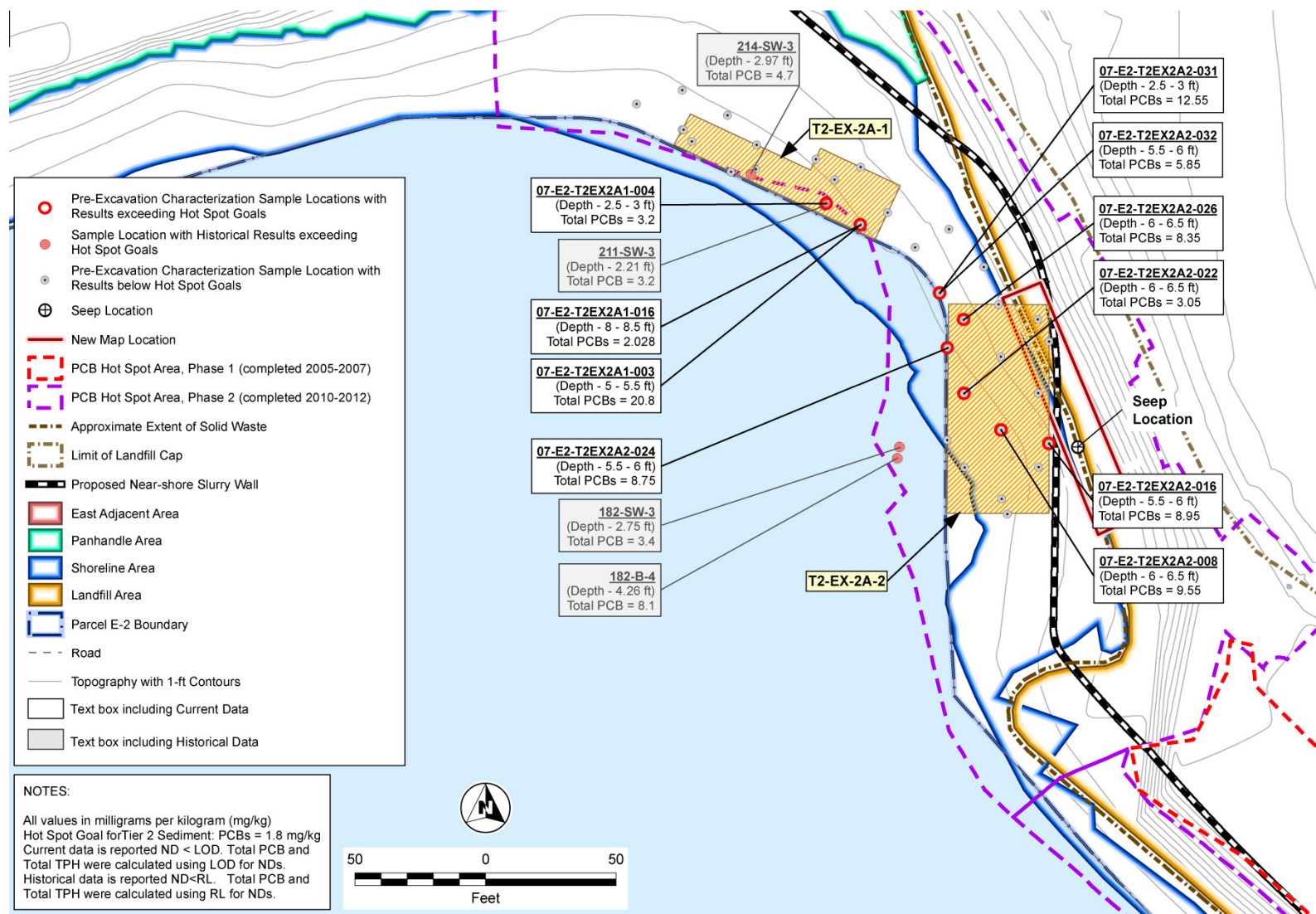
Results Exceeding Hot Spot Goals: T2-EX-3A, -3B, -3C, -3D; T2-EX-4



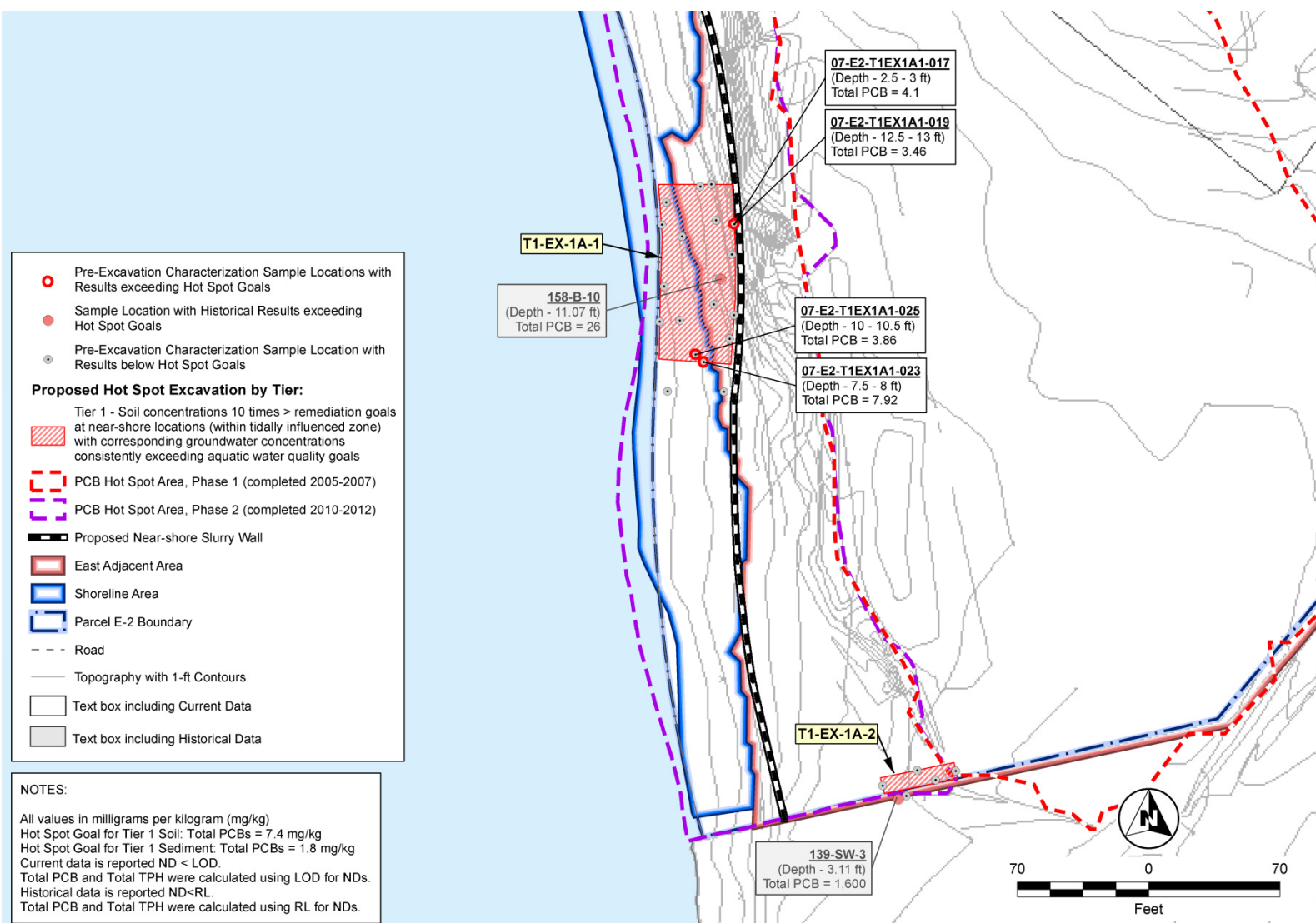
Results Exceeding Hot Spot Goals: T2-EX-5; T4-EX-1, -2, -3, -4



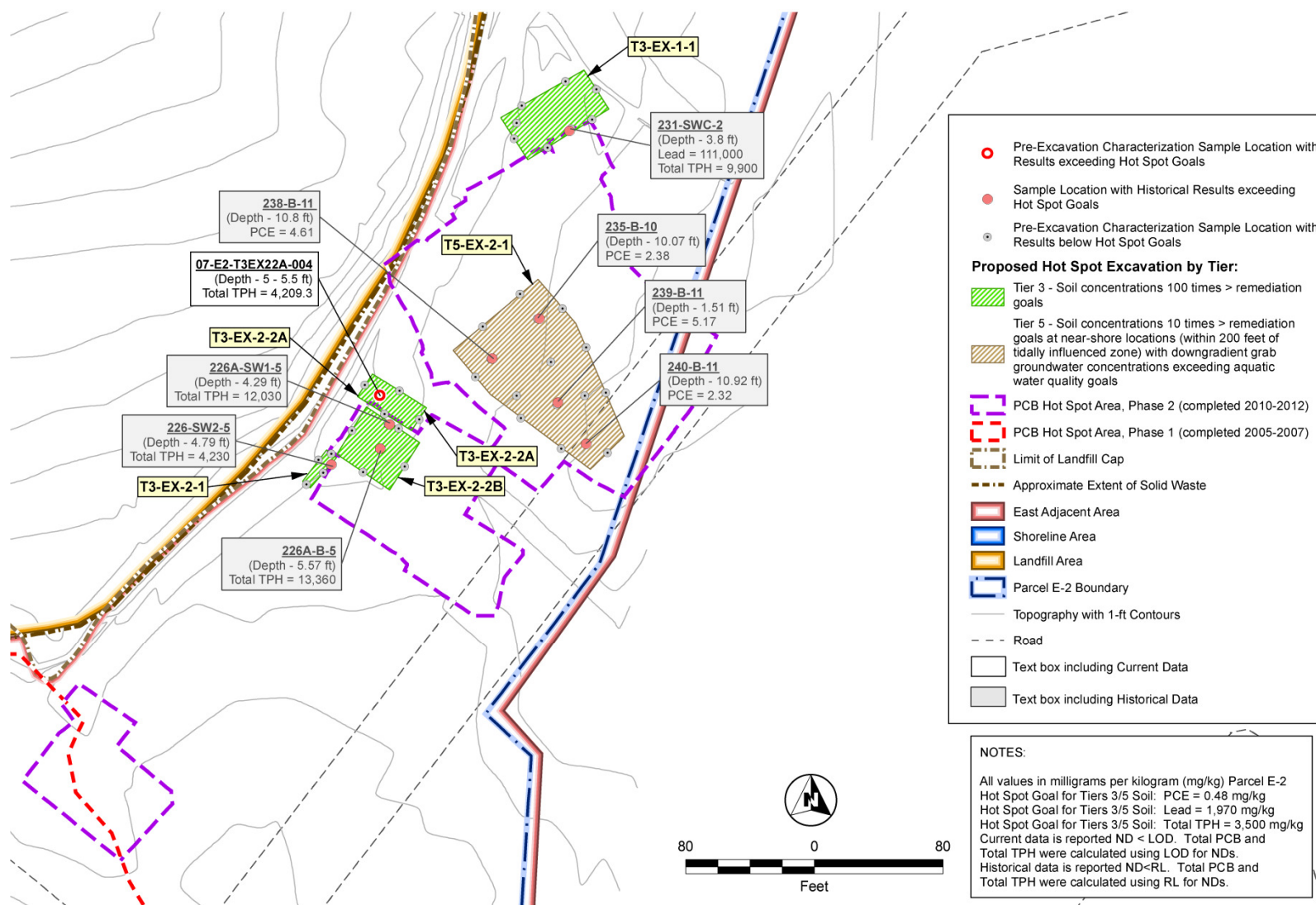
Hot Spot Goal Exceedances: T2-EX-2A-1, T2-EX-2A-2



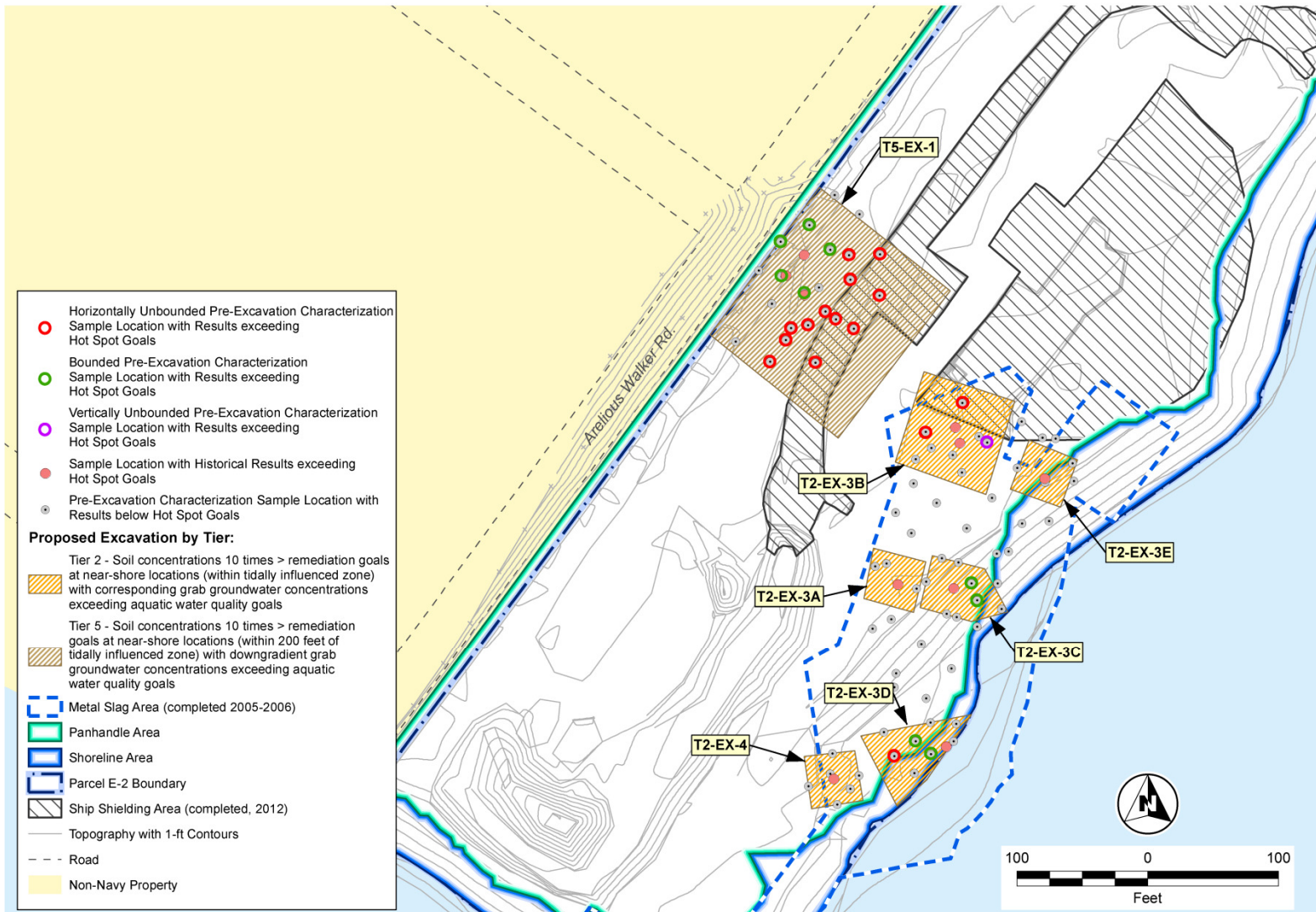
Results Exceeding Hot Spot Goals: T1-EX-1A-1, T1-EX-1A-2



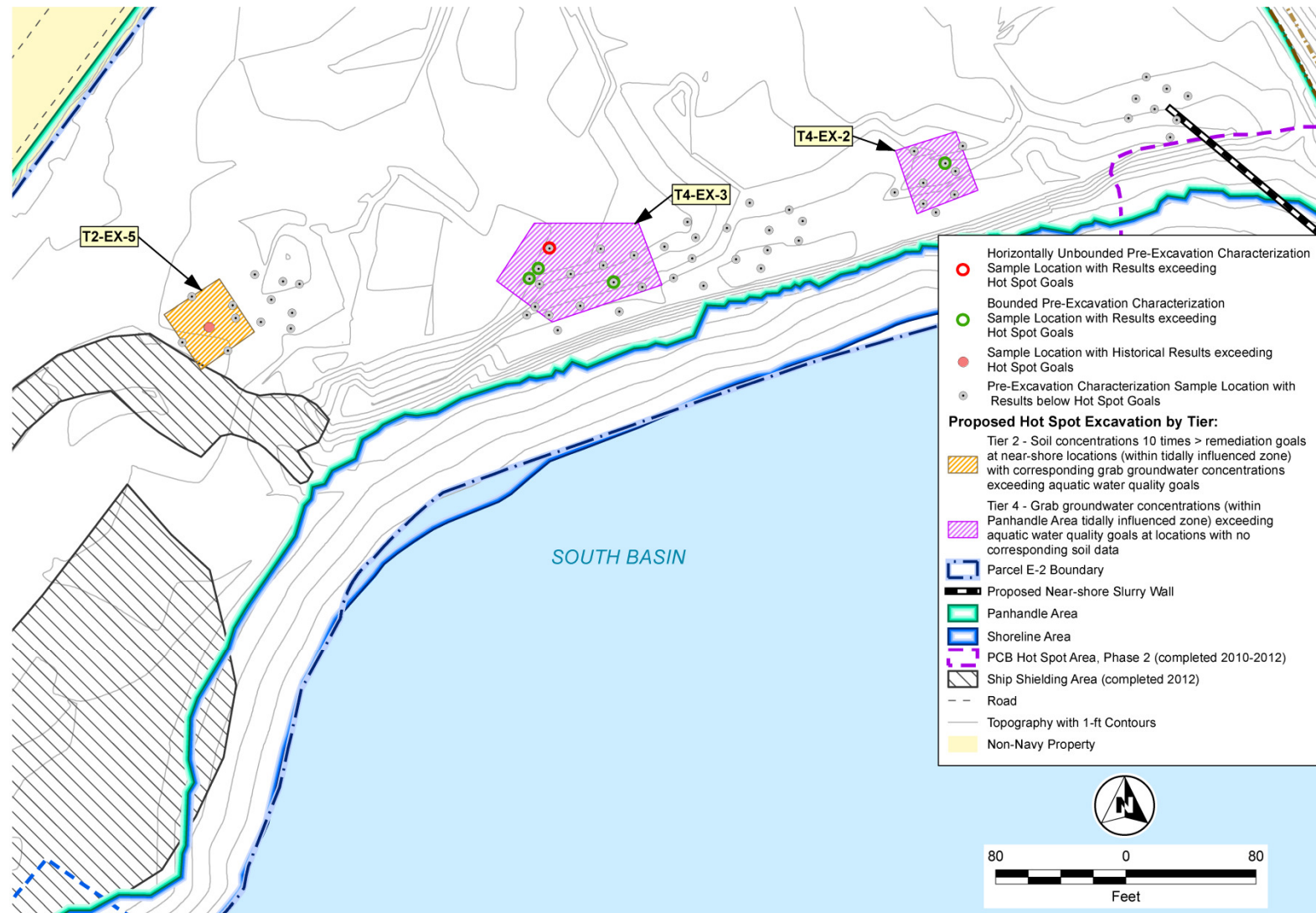
Results Exceeding Hot Spot Goals: T3-EX-1-1; T3-EX-2-1, -2A, -2B; T5-EX-2-1



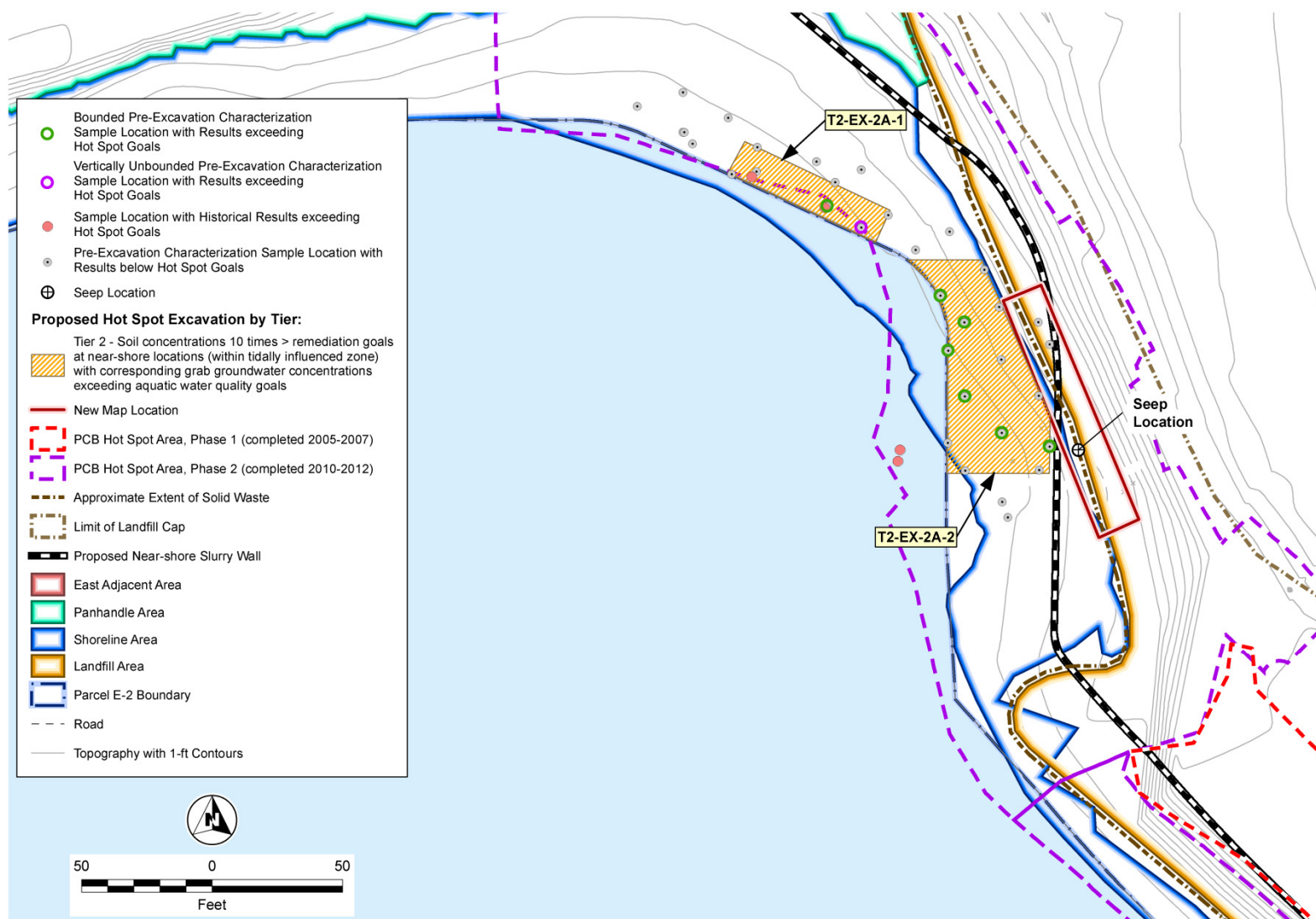
Revised Excavation Boundaries: T2-EX-3A, -3B, -3C, -3D; T2-EX-4; T5-EX-1



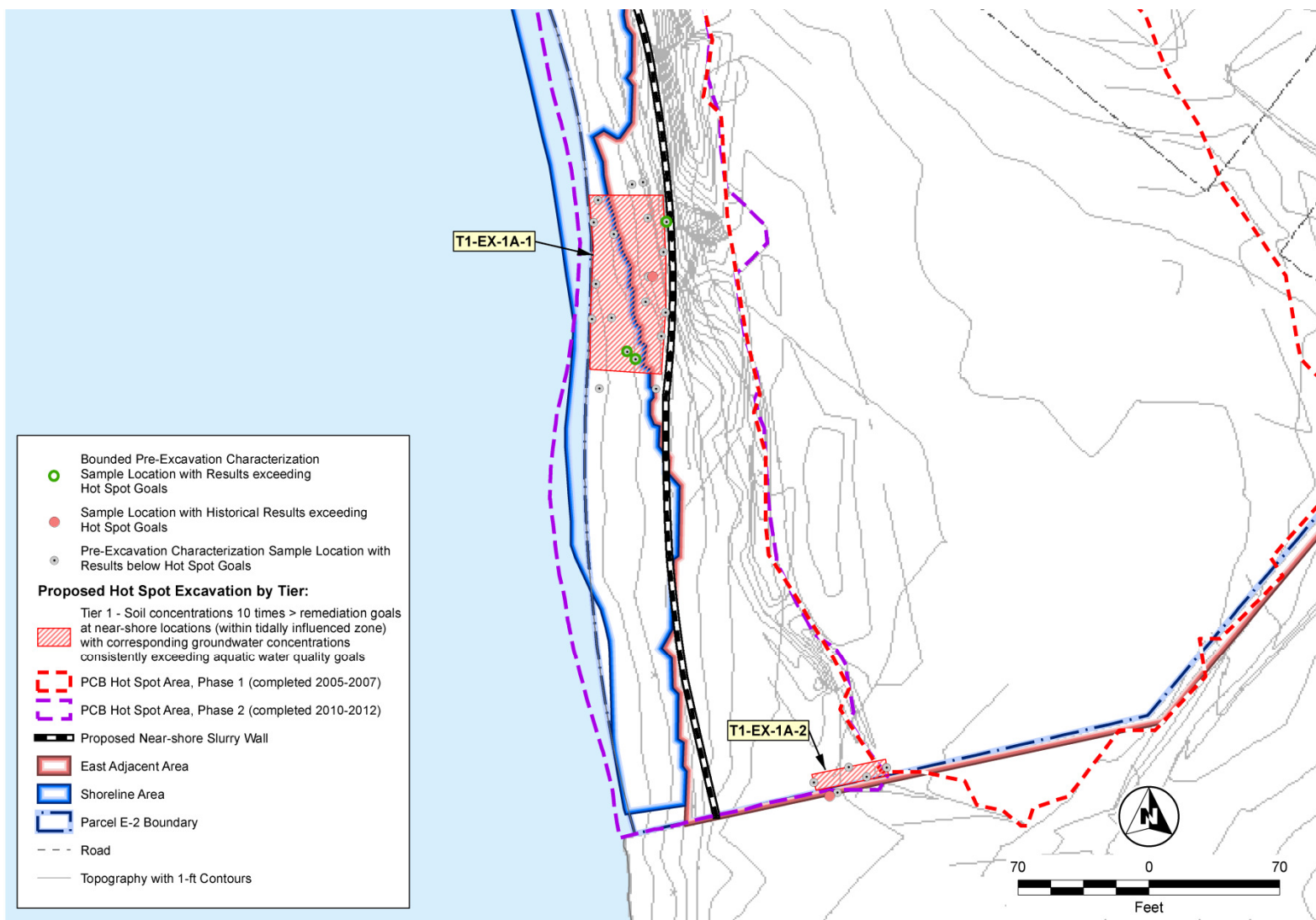
Revised Excavation Boundaries : T2-EX-5; T4-EX-1, -2, -3, -4



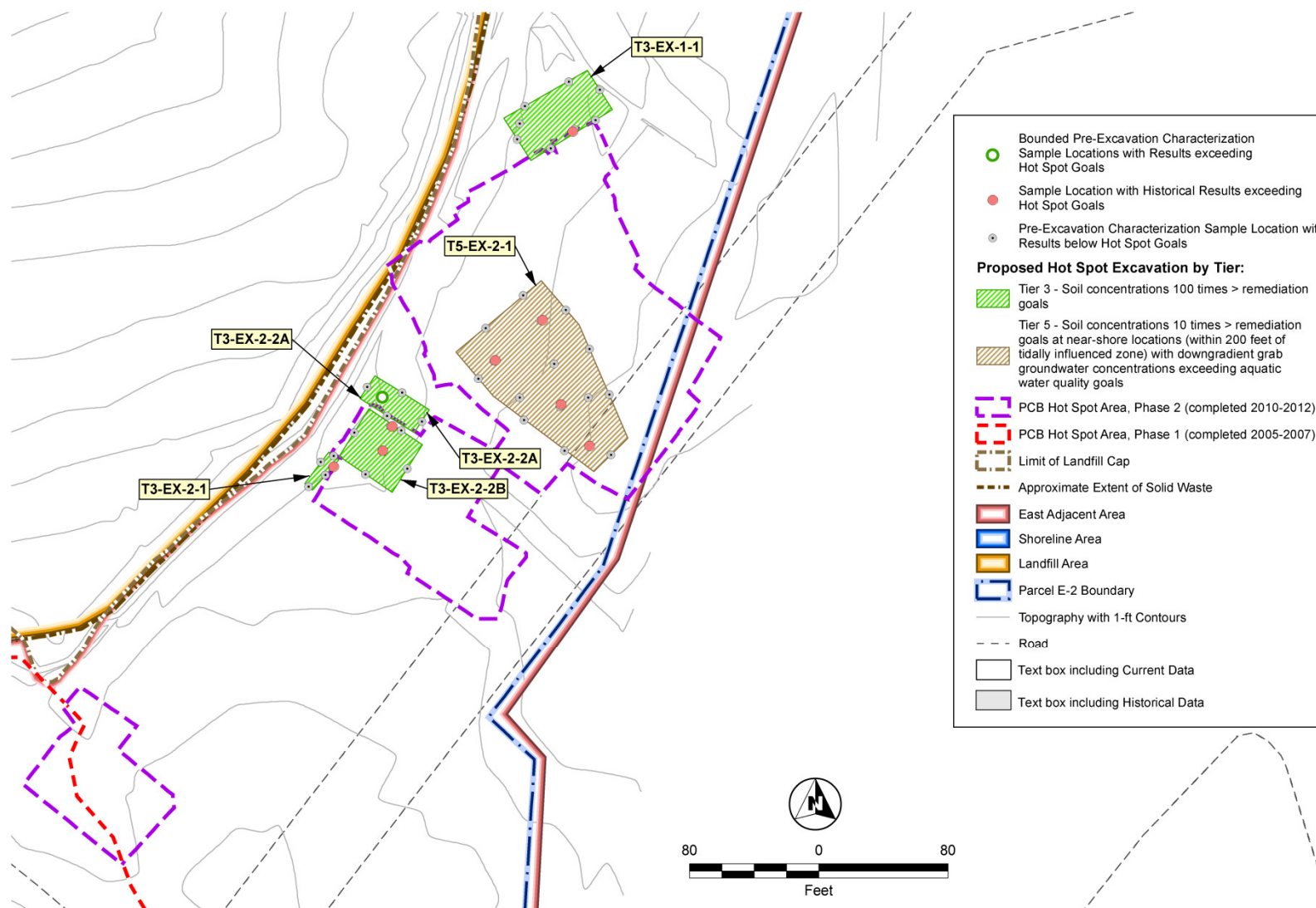
Revised Excavation Boundaries : T2-EX-2A-1, T2-EX-2A-2



Revised Excavation Boundaries : T1-EX-1A-1, T1-EX-1A-2



Revised Excavation Boundaries : T3-EX-1-1; T3-EX-2-1, -2A, -2B; T5-EX-2-1



Schedule Update



Submit Draft E-2 Hot Spot RAWP
BCT Comments Due
Utility Locating
Submit Final E-2 Hot Spot RAWP
Drilling and Sampling
Submit Draft ESS to NOSSA

Dec 20, 2013
Feb 6, 2014
Mar 19, 2014
Mar 28, 2014
Mar 31 – May 7, 2014
April 8, 2014

Re-mobilization Drilling and Sampling
Submit Draft Characterization Tech Memo to BCT
Rehabilitation of Radiological Screening Pads
Turbidity Curtain Installation
Hot Spot Excavation
Draft Hot Spot RACR
Final Hot Spot RACR

June 30, 2014
Aug 4, 2014
Aug 2014
Sep 2014
Sep 15 – Mar 17, 2015
June 26, 2015
Oct 15, 2015